

Appl. No. : 09/284,421
Filed : June 11, 1999

REMARKS

Applicant has the following amendments and remarks in response to the Office Action, mailed February 27, 2006.

Claims 89-91, 95, 105, 107, 114, 115, 119, 123, 128 and 157 have been amended by this paper, claim 117 has been cancelled and claims 159-161 have been added. Claims 100-104, 106, 109, 124 and 132-155 were previously cancelled. Accordingly, by this paper, Claims 89-99, 105, 107, 108, 110-116, 118-123, 125-131 and 156-161 are presented for further examination.

In the Office Action dated February 27, 2007, the Examiner rejected Claims 91, 91, 105, 107, 108, 110-123, 125-131 and 157-158 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In particular, various claims were rejected as a result of clerical errors or because they lacked antecedent bases.

By this paper, the claims have been amended so as to correct the clerical errors and to provide the necessary antecedent basis. Accordingly, Applicant respectfully requests that the Examiner withdraw the above-identified rejection under 35 U.S.C. § 112, second paragraph.

In the Office Action dated February 27, 2007, Claims 89-99, 105, 107-108, 110-117, 121-123, 125-131 and 156-158 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kelton, et al. (U.S. Patent No., 5,496,520, hereinafter "Kelton") in view of Gordon (WO 96/09548, hereinafter "Gordon"). In addition, Claims 118-120 were rejected under 35 U.S.C. § 103(a) as being unpatentable under Kelton in view of Gordon as applied to Claims 89-99, 105, 107-108, 110-117, 121-123, 125-131 and 156-158 above, and further in view of Merkh et al. (US Patent No., 5,281,540, hereinafter "Merkh").

One embodiment set forth in the claims of the above-identified application is a multi-reaction site assay plate structure which comprises, inter alia:

at least one overless sector plate insert configured to be removeably inserted in a sector so as to define a liquid receiving chamber between the upper surface of the sector plate insert and the upper rigid surface (See, e.g., Claim 89)

In the Office Action, the Examiner acknowledged that "Kelton et al. failed to teach that the insert 20 can be divided into separate physical sectors of the disc." Applicant agrees with this

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conclusion, and suggests that Kelton not only fails to provide such a teaching, but teaches away from such a configuration, by making statements such as:

It is, therefore, an object of our invention to provide a rotary fluid manipulator or diagnostic device which is characterized by the fact that it is fabricated from a sheet of porous material having top and bottom, generally parallel flat surfaces and characterized by the fact that the body of the manipulator or device incorporates porosities exerting a wicking action upon fluids or fluid suspended substances deposited on the body. Column 1, lines 36-43, emphasis added.

Both Kelton and Gordon define discs that comprise a single body, and Kelton discloses specific teachings on the incorporation of that body in a housing, wherein Kelton notes that:

a circumferential collection chamber 56 is provided at the perimeter of the body to collect excess fluid resulting from the centrifugal and wicking actions to which the eluant is subjected and that chamber may incorporate a suitable absorbent material 58, such as a cellulosic absorbent or the like. Column 6, lines 20-25.

The use of a single body, fabricated from a sheet of porous material and encased in a housing having structure which interacts with the body as described in Kelton, teaches away from the use of a sector plate, which comprises only a portion of the body and which is removeably inserted in only a sector of the device, as defined in Applicant's Claim 89.

The Examiner indicates that Merkh includes:

A liquid injecting device 31, which penetrates the self-sealing cover 90 of each sector at port 92 (see column 10, lines 1-7). The sector inserts 80 and the disc 18 include locks 100, 102, 104 and key 93 portions to allow the sectors to be snap-fitted in the correct orientation on the disc 18. Office Action, page 8.

The substitution of such an insertable structure for the sections 26 of the Kelton device is even further from the teaching of the use of a single body, and would require significant alteration of the Kelton device and housing in order to somehow accommodate the structure of Merkh. More particularly, ability to place the Merkh inserts into the Kelton device would require access arrangements which are clearly not contemplated by Kelton. For example, the Mekh insert would prohibit use of the circumfluent collection chamber 56 of Kelton. Applicant submits that such a redesign of Kelton in order to incorporate inserts of Merkh would not have

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caused one of ordinary skill in the technology to consider such a combination, and would certainly not have made such a combination obvious.

Likewise, Gordon does not lend itself to the redesign required to provide for the inserts of Merkh. Gordon is directed to providing:

an optical analysis technique with allows high speed automatic analysis of biological, biochemical and chemical samples and which is versatile enough to allow it to be used for a variety of different studies.

These objects are achieved by adapting the technology which has been developed in the field of audio and video compact discs to scan surfaces. Page 2, lines 17-24.

Gordon is directed to the application of compact disc technology to the inspection of biological, chemical or biochemical samples supported by an optical transparent disc (see, e.g. abstract). The Merkh system is not directed to compact disc technology but instead is directed to a biological sample analyzer involving use of no compact disc technology. Instead of compact disc technology, the device of Merkh includes a complicated mechanical structure comprising an analyzer with includes a processing chamber 11 that:

Contains a holding rack, preferably in the form of a rotateable carousel 18 which serves two primary purposes. First, the carousel 18 comprises means for holding and conveying reaction cartridges 80 in order to position the cartridges to receive sample and selected reagents, to provide agitation required for processing the samples and reagents, and to position the cartridges for reading test results therefrom. Second, the carousel 18 functions as a very precise optical bench. Column 6, lines 27-36.

Applicant submits that there is simply no reason that one dealing with optical disc technology, with efforts directed toward perfecting assays using materials on that disc, would look toward a cumbersome, non disc system which utilizes trays on a carousel to somehow produce an apparatus as defined by Applicant's claim 89.

Furthermore, the device of Merkh comprises cartridges 80 that include reaction wells 86 having a cover 90 "which preferably includes a reagent port 92 to facilitate the delivery and removal of fluids from the reaction well 86" (column 9, lines 59-61). This cover protects the contents of the well, and includes the slits 92 as a means by which access to the well is provided.

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This cover 90 is necessary in the Merkh device, since materials are inserted into the well before the cartridge is placed in the carousel. For example:

In the exemplary enzyme immunoassay being described, the operator preferably introduces approximately 0.5ml of patient serum and 0.5ml of a specimen delusion buffer, such as a 10% heat inactivated horse serum in ten mM(TB5) pH7.4, into the reaction well 86 of a cartridge 80 through the port 92. The operator then preferably manually records a patient identification code on the reaction cartridge, loads the cartridge 80 into the opening in the carousel 18 and enters the patient identification code on the key pad 34. Column 36, lines 25-34 emphasis added.

Such a cover would be unnecessary and superfluous in a device such as Kelton or Gordon if the cartridge were to be contained within a housing such as 14 and 16 of Kelton. In contrast to the above, one of Applicant's embodiments comprises "at least one coverless sector plate insert." (see, e.g. Claim 89). None of the references identified by the Examiner teach or suggest the use of a coverless sector plate insert, as defined by Applicant, in combination with the other features defined in Applicant's Claim 89.

In view of the above, Applicant respectfully submits that Claim 89, as presented herein, defines subject matter which is patentable over the art of record. Furthermore, since each of the independent claims 105 and 123 include similar limitations to those of Claim 89 described above, Applicant respectfully submits that independent Claims 105 and 123 also define patentable subject matter for at least the reasons set forth above with respect to Claim 89. Furthermore, since dependent Claims 90-99, 107, 108, 110-116, 118-122, 125-131 and 156-158 each depend from one of Claims 89, 105 or 123, Applicant submits that these dependent claims also define subject matter which is patentable over the art of record for at least the reasons set forth above with respect to their corresponding independent claims.

Applicant has also presented herein new Claims 159-161 which further define the embodiments set forth in independent Claims 89, 105 and 123. Applicant submits that these dependent claims all define structure which is neither taught nor suggested by the prior art references of record. Accordingly, Applicant respectfully submits that dependent Claims 159-161 also defines subject matter which is patentable over the art of record.

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In view of the foregoing, Applicant respectfully submits that claims 89-99, 105, 107, 108, 110-116, 118-123, 125-131 and 156-161 define subject matter that is patentable over the art of record. Accordingly, Applicant respectfully submits that these claims are now in condition for immediate allowance and such prompt allowance of the same is respectfully requested.

Conclusion

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is respectfully requested. If the Examiner has any questions which may be answered by telephone, he is invited to call the undersigned directly.

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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